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CHARACTERISTICS OF CHINESE DRIVERS ATTENDING A MANDATORY TRAINING COURSE FOLLOWING LICENCE SUSPENSION

FLEITER, Judy^{1,2}, WATSON, Barry¹, GUAN, Manquan², DING, Jingyan², XU Cheng²

¹ Centre for Accident Research and Road Safety-Queensland (CARRS-Q), Brisbane, Australia, 130 Victoria Park Road, Kelvin Grove, Queensland 4509 Australia
Phone: +61 7 3138 4905 Fax: +61 7 3138 0001 Email: j.fleiter@qu.edu.au

² Zhejiang Police College, 555 Binwen Road, Binjiang District, Hangzhou, Zhejiang Province, 310053 People's Republic of China.
Phone: +86 57187787083 Fax: +86 57186615786 Email: guanmanquan@126.com

ABSTRACT

Penalties and sanctions to deter risky/illegal behaviours are important components of traffic law enforcement. Sanctions can be applied to the vehicle (e.g., impoundment), the person (e.g., remedial programs or jail), or the licence (e.g., disqualification). For licence sanctions, some offences attract automatic suspension while others attract demerit points which can indirectly lead to licence loss. In China, a licence is suspended when a driver accrues twelve demerit points within one year. When this occurs, the person must undertake a one-week retraining course at their own expense and successfully pass an examination to become relicensed. Little is known about the effectiveness of this program. A pilot study was conducted in Zhejiang Province to examine basic information about participants of a retraining course. The aim was to gather baseline data for future comparison. Participants were recruited at a driver retraining centre in a large city in Zhejiang Province. In total, 239 suspended drivers completed an anonymous questionnaire which included demographic information, driving history, and crash involvement. Overall, 87% were male with an overall mean age of 35.02 years ($SD=8.77$; range 21-60 years). A large proportion (83.3%) of participants owned a vehicle. Commuting to work was reported by 64% as their main reason for driving, while 16.3% reported driving for work. Only 6.4% reported holding a licence for 1 year or less ($M=8.14$ years, $SD=6.5$, range 1-31 years) and people reported driving an average of 18.06 hours/week ($SD=14.4$, range 1-86 hours). This represents a relatively experienced group, especially given the increase in new drivers in China. The number of infringements reportedly received in the previous year ranged from 2 to 18 ($M=4.6$, $SD=3.18$); one third of participants reported having received 5 or more infringements. Approximately one third also reported having received infringements in the previous year but not paid them. Various strategies for avoiding penalties were reported. The most commonly reported traffic violations were: drink driving (DUI; 0.02-0.08 mg/100ml) with 61.5% reporting 1 such violation; and speeding (47.7% reported 1-10 violations). Only 2.2% of participants reported the more serious drunk driving violation (DWI; above 0.08mg/100ml). Other violations included disobeying traffic rules, using inappropriate licence, and licence plate destroyed/not displayed. Two-thirds of participants reported no crash involvement in the previous year while 14.2% reported involvement in 2-5 crashes. The relationship between infringements

and crashes was limited, however there was a small, positive significant correlation between crashes and speeding infringements ($r=.2$, $p=.004$). Overall, these results indicate the need for improved compliance with the law among this sample of traffic offenders. For example, lower level drink driving (DUI) and speeding were the most commonly reported violations with some drivers having committed a large number in the previous year. It is encouraging that the more serious offence of drunk driving (DWI) was rarely reported. The effectiveness of this driver retraining program and the demerit point penalty system in China is currently unclear. Future research including driver follow up via longitudinal study is recommended to determine program effectiveness to enhance road safety in China.

INTRODUCTION

Background

Penalties and sanctions to deter risky and illegal behaviours are important components of traffic law enforcement. Sanctions can be applied to the vehicle (e.g., impoundment, alcohol ignition interlock), the person (e.g., remedial programs or jail), or the licence (e.g., suspension, withdrawal). Historically, the principles of deterrence theory (Gibbs, 1979) have played a key role in traffic law enforcement through the application of such penalties and sanctions (Homel, 1988). The traditional or classical form of deterrence theory typically found in the driver behaviour literature is based on the Deterrence Doctrine which posits that individuals give rational consideration to their behavioural choices based on the threat of associated sanctions (Gibbs, 1979). This threat is determined by a combination of the perceived risk of being apprehended and the perceived certainty, severity, and swiftness of punishments associated with apprehension. A more recent extension in the deterrence literature challenges us to also consider the influence of two additional factors: vicarious learning and avoiding punishments (Stafford & Warr, 1993). Overall, the broader deterrence concepts can reinforce behaviour that is compliant with traffic law by deterring drivers via the threat of penalties and sanctions. However, they may also reinforce illegal behaviour (ie behaviour that is not compliant with traffic law) due to driver experiences of evading penalties and sanctions when performing illegal behaviours or by exposure to others who do not incur penalties when they commit illegal driving offences (Stafford and Warr, 1993).

In many countries, a common method used for administering licence sanctions is a demerit point system. Although each demerit point system is slightly different, the general principle remains the same: offences have a predetermined number of demerit points assigned to them with more severe offences generally associated with a greater number of points; licence holders accrue (or lose) these predetermined points for various offences committed until a predetermined limit (threshold) is attained (lost) within a certain timeframe; upon reaching that threshold, the licence is suspended or disqualified for a period of time; and such schemes are designed to deter repeat offending (van Schagen & Machata, 2012).

Variation exists across international jurisdictions regarding the type of offences included in a demerit point system, the number of points assigned to offences, whether points are added or subtracted as offences accumulate, the time period over which points accumulate, the total threshold of points that can be accumulated/lost before a licence is

revoked, the length of time that points remain current (i.e., ‘lifetime’ of a point) and the process involved in regaining the licence after suspension. In general, demerit point systems only apply to licence holders of motorised vehicles. However, in some European countries, cyclists (and only when they hold a driving license) also fall within the system for some offences (van Schagen & Machata, 2012).

The following examples illustrate some of these variations across jurisdictions. In many countries, the maximum number of points (threshold) that can be accumulated before licence suspension ranges between 12-18. For example, the Australian system operates on a maximum of 12 points accumulated over a three year period, while in New Zealand the timeframe is only two years (Styles et al., 2009). In Bulgaria, the total points threshold is set much higher at 39 points (van Schagen & Machata, 2012). In some European countries, only one point is assigned per offence with a total of three offences leading to licence suspension. However, in many other places, 6 or 8 points are assigned for one offence, depending on its severity (e.g., in the Australian state of Queensland, a penalty of 8 points, a large monetary fine, and instant licence suspension applies for the offence of exceeding the posted speed limit by more than 40km/hour) (Watson, Siskind, Fleiter & Watson, 2009). Furthermore, in some jurisdictions, there are different arrangements for novice drivers, professional drivers and/or repeat offenders (e.g., reduced total points thresholds or prolonged licence suspension period). For instance, in the Australian jurisdiction of Queensland, as part of a Graduated Driver Licensing scheme (GDL), novice drivers in their first year (Learner phase) and Provisional drivers in subsequent phases (P1 and P2 phases) have only 4 points available over a one year period compared to 12 points over three years for holders on an unrestricted (Open) licence (Department of Transport and Main Roads, 2012). In Italy, a distinction is made between professional and private licence types with offences committed while driving professionally tallied in a separate professional driving record (van Schagen & Machata, 2012). Recommendations for best practice in regard to the various aspects of demerit point systems were produced as part of a European Union project in 2012 (see van Schagen & Machata, 2012).

Road safety management in China

China, like many rapidly developing and motorising nations, is facing extensive changes and challenges in relation to road safety. Low- and middle-income countries account for over 90% of international road fatalities each year, yet have only 48% of the world’s vehicles (WHO, 2009). Coupled with massive increases in the number of newly licensed drivers and private car ownership, China introduced its first comprehensive road safety legislation in 2004 in response to escalating road fatalities (Fleiter et al., 2011; Zhang et al., 2006; WHO, 2009). One major challenge in China is managing the record numbers of first-time car owners and novice drivers entering the system (Senserrick et al., 2011; Zhang & Jiang, 2012).

In China, a demerit point system is in place to manage traffic offences. This system is administered by the Traffic Police Department of Hangzhou Public Security Bureau. Motorists who accumulate 12 demerit points in a 1 year period have their licence suspended

for an initial period of 1 month. In order to regain the licence, individuals must undertake a one-week retraining course at their own expense and successfully pass an examination to become relicensed. Typically, the cost of the course is low. For example, in Zhejiang Province, the location of the current research, the one-week course costs RMB51¹. The course is administered and run by the Traffic Police Department of Hangzhou Public Security Bureau and consists of classroom based sessions which cover traffic rules, traffic laws, and traffic safety (e.g., what to do in the event of a traffic crash). Offences that can lead to licence loss include: speeding, unlicensed driving, vehicle overloading, red light running, alcohol-impaired driving, and driving the wrong way on a one way street. If a motorist opts to take this course twice in a one year period, the length of suspension doubles to 2 months. If an individual's licence is suspended for a third time, they must regain their licence in the same way that a new driver attains theirs – undertaking practical driving lessons and examinations that takes approximately 2 months. A recent revision to the scheme means that an individual who has accrued 10 of the maximum 12 demerit points in one year can apply to the district level of government to undertake a two day training course in order to regain 4 of their demerit points. It is only possible to do this once.

Zhejiang Province, China

Zhejiang Province is located in the south east of China and had a recorded population of 54,426,891 by the end of 2011 (Zhejiang Public Security Bureau, 2012). As at 31 December 2011, the total number of registered vehicles was 6,582,445 (excluding tractors and motorcycles) and there were 12,169,909 valid licences, representing 22.36% of the total population. To illustrate the trend in China of increasing numbers of new drivers, in 2011, 1,383,318 new licences were issued in Zhejiang Province, representing a 16.78% increase on the number issued in 2010 (Zhejiang Traffic Management Department, 2012). As at 31 October 2012, there were more than twice as many men licensed as women in Zhejiang Province (Men = 9,027,532 and women = 3,929,569). In order to apply for a driving licence, a person must be 18 years old and undertake specific training that involves both classroom and in-vehicle training at off-road facilities (see Senserrick et al, 2011 for greater detail). Traffic safety is a priority for the Zhejiang authorities. However, much work still needs to be done to reduce the number of fatalities and injuries occurring in the Province. In 2011, there were 20,176 crashes recorded, resulting in 5,235 fatalities and 21,260 people injured (Zhejiang Traffic Management Department, 2012).

Research aim

Little is known about the effectiveness of demerit point schemes and driver education in promoting traffic law compliance in China. Therefore, a pilot study conducted in Zhejiang Province aimed to examine basic information about participants of a driver retraining course so that baseline data could be gathered and used for future comparison.

METHOD

¹ The average annual income in Zhejiang Province is 35,731RMB in urban areas and 13,071 RMB in rural areas (Zhejiang Provincial Bureau of Statistics, 2012).

Participants and procedure

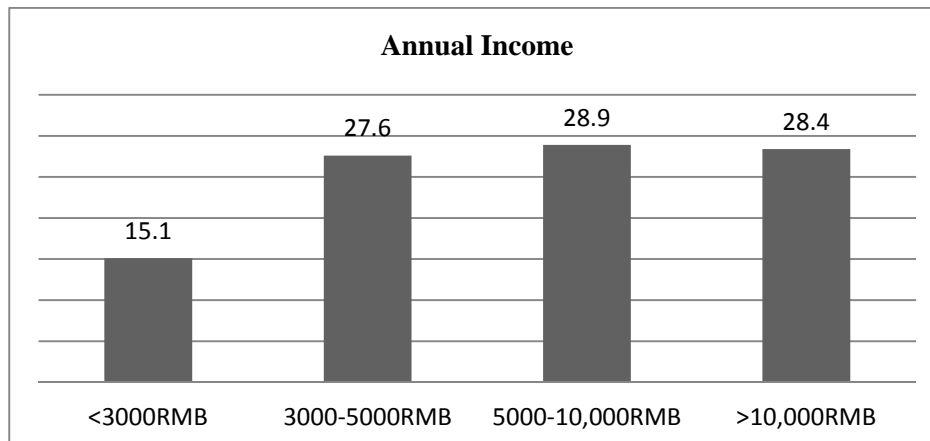
A total of 239 suspended drivers (87% male) were recruited from a driver retraining centre in the city of Hangzhou, the capital city of Zhejiang Province, over two visits by the research team during November 2012 and January, 2013. An overall response rate of 94.8% was attained. Participants attending the retraining course on the days the researchers visited were asked to complete an anonymous questionnaire which included items assessing demographic characteristics, driving history, crash involvement and perceptions about enforcement and punishment avoidance.

RESULTS

Demographics and driving exposure

The majority (87%) of the sample were male and the mean age of participants was 35.02 years ($SD=8.77$; range 21-60 years). Income levels varied although the majority of the sample reported earning less than the Provincial average annual income figures (i.e., 35,731RMB in urban areas and 13,071 RMB in rural areas). Less than half the sample reporting an income below 5,000RMB per annum (see Figure 1), an amount that is less than half the average annual income for Zhejiang Province.

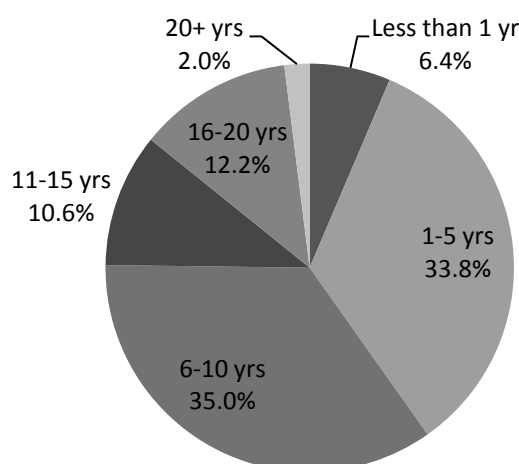
Figure 1. Self-reported annual income (RMB) of participants



The rate of private vehicle ownership was 83.3% and two thirds of the sample (64%) reported that commuting to work was the main reason they drive. Only 16.3% of people reported driving for work purposes as the main reason and 19.7% reported recreational activities as their main reason for driving. Driving exposure was assessed in three ways. Firstly, the average number of hours spent driving each week was 18.06 ($SD=14.4$, range 1-86 hours). Secondly, the majority of the sample (53.4%) reported making more than 10 driving trips per week and only 1.3% reported driving less than once per week. Thirdly, participants reported having held a licence for an average of 8.14 years ($SD=6.5$, range 1-31 years). Together, these exposure indicators suggest a relatively experienced driving group, especially

given the recent increase in new drivers in China (Zhang & Jiang, 2012). In the current sample, only 6.4% reported holding a licence for less than one year (see Figure 2).

Figure 2. Number of years reported holding a driving licence



Number and type of self-reported violations in the previous year

Participants were asked to report the number of traffic infringements that they had received in the previous 12 months. The mean response was 4.6 infringement ($SD=3.18$, range 2-18). One third of respondents reported having committed 5 or more violations. The most commonly reported traffic violations were: drink driving (DUI; 0.02-0.08 mg/100ml) with almost two thirds of the sample (61.5%) reporting one such violation in the previous year (only 4 participants reported receiving two); and speeding (47.7% reported between 1 and 10 violations). Only 2.2% of participants reported the more serious drunk driving violation (DWI; above 0.08mg/100ml). Other violations included disobeying traffic rules, using inappropriate licence, and licence plate destroyed/not displayed (see Table 1).

Table 1. Proportion of sample reporting infringements received in the previous year

Violation	Percentage
Drink driving (DUI: 0.02-0.08 mg/100ml)	61.5
Speeding	47.7
Disobeying traffic rules including red light running	3.1
Using inappropriate licence	3.1
Licence plate destroyed/not displayed	2.2

Participants were asked to report whether they had received infringements in the last 12 months that they had not paid (i.e., avoided the legal penalty). Approximately one third of the sample (23.8%, $n = 55$) responded 'yes'. Table 2 contains information about the number of infringements reportedly not paid in the previous year.

Table 2. Proportion of sample reporting the number of infringements not paid in previous year

Number of Infringements Not Paid	Percentage
1	27.4
2	43.6
3	10.9
4	3.6
5	12.7
15	1.8

We then asked those participants to indicate how they had avoided paying the penalty associated with these infringements (i.e., an open-ended question where participants could write as many responses as required). Only a small proportion of drivers responded to this question. Table 3 illustrates the most commonly reported methods of avoiding penalties. One participant indicated that if the infringement was serious in nature (not defined), he would try to escape the penalty but that if it was not serious, he would receive and pay the penalty.

Table 3. Methods reported to avoid traffic infringement penalties

Avoidance method	No. participants
Find someone of authority to deal with it so I can avoid punishment	2
Find others to replace me so I don't lose points	10
Extend the processing time for dealing with punishment	5
No licence plate on my car	2

Drivers were also asked to report how sure they were that they would receive an infringement if caught speeding by both a speed camera and a traffic police officer. Responses differed slightly. While the majority of the sample reported agreement that they would receive an infringement if caught (77.6% if caught by camera and 82.6% if caught by a police officer), the results indicate that some drivers perceive that they can avoid receiving an infringement if caught by either method.

Further, we asked drivers whether they had previously used any of three specific strategies to avoid detection or penalty: 1) reporting that another person was driving at the time of the violation, 2) using their social relationships to avoid penalties for violations, and 3) covering or removing the licence plate to avoid detection. Table 4 contains information about the percentage of participants who reported use of each avoidance strategy.

Table 4. Percentage of sample reporting usage of punishment avoidance strategies

	Say others driving	Use social relationships	Cover/remove plate
Never	52.3	66.5	80.0
Sometimes	36.5	24.2	13.0
Most of the time	6.5	4.4	3.5
Always	4.7	4.9	3.5

As can be seen from Table 4, the majority of participants reported never having engaged in these three avoidance strategies. While this is encouraging, nonetheless, in the

case of the first two strategies, approximately half (47.7%) and one third (33.5%) reported that they sometimes or more frequently engage in them (i.e., saying another person was driving and using social relationships, respectively).

Crash involvement

Two-thirds of participants reported no crash involvement in the previous year ($M=0.53$ crashes, $SD=0.91$; range 0 – 5). Of those reporting involvement, 14.2% had been involved in more than one crash. No information was collected about who was deemed to be at fault in crashes. The relationship between infringements and crashes was limited. There was no association between the number of DUI offences or DWI offences and self-reported crash involvement. However, there was a small, positive significant correlation between crashes and the number of speeding infringements received in the previous 12 month period ($r=.2$, $p=.004$). There was also a significant, but negative association between the number of DUI and speeding infringements received in the previous year ($r=-.3$, $p<.001$).

DISCUSSION

This research aimed to gain baseline data about Chinese drivers who had their driver's licence suspended in one city in Zhejiang Province. In China, the accumulation of twelve demerit points in a one year period leads to licence suspension. In order to regain a licence, drivers must undertake a one week retraining course. Driver retraining courses vary widely across international jurisdictions and some program evaluations have demonstrated positive results in terms of re-offence rates (Delhomme, P., Grenier, K., & Kreel, V. (2008). No such data is currently available for China. Indeed, little is known about the success of driver education overall in the country (Senserrick et al., 2011).

The current sample represents a relatively experienced driving group. It is recognized that, unlike some other countries that have a history of large-scale participation in driving, in China, length of licensure does not necessarily equate directly to length of driving experience. We know that obtaining a licence in China can occur without a person necessarily having access to a vehicle for a long period of time (Senserrick et al., 2011). In this sense, being a licence holder in China does not automatically mean that one is a driver; a circumstance aptly described by Zhang & Jiang (2012) as producing a unique group in the population, 'carless drivers'. However, the other two measures of driving exposure used in the current study (number of trips and number of hours driven in a typical week) indicate that this sample did consist of experienced drivers. Further, the vast majority of the sample reported owning a car (83.3%).

All participants were attending a driver retraining course because they had accumulated enough (at least 12) demerit points in the previous year. Not unexpectedly therefore, results relating to questions about traffic infringements indicated substantial non-compliance with traffic laws among the sample. For instance, the mean number of infringements received in the previous year was 4.6 ($SD=3.18$) and a range of 2 to 18. While it was encouraging that only a small percentage (2.2%) of participants reported the serious criminal offence of drunk driving (DWI; above 0.08mg/100ml), the lesser offence of drink

driving (DUI; 0.02-0.08mg/100ml) was reported by two thirds of the offender sample. The change of penalty for the more serious DWI that occurred in China in May 2011 was intended to reduce the incidence of alcohol-related road crashes and associated trauma. Information obtained from the Zhejiang Traffic Management Department (2012) indicates that the number of drivers in Zhejiang Province charged with DUI and DWI decreased from 2010 to 2011 by approximately 60% and 62% respectively; a total of 89,228 DUI offenders and 10,014 DWI offenders were reportedly apprehended in 2011. These reductions are encouraging, especially for the more dangerous DWI offence category. However, the substantial proportion of DUI (drink driving) offenders in the current sample suggests that although the change in law making DWI a criminal offence may be reaping positive rewards for China, more effort is required to convince drivers that a blood alcohol level of between 0.02 and 0.08mg/100ml is also dangerous (and illegal). Similarly, with almost half the sample having committed speeding offences, efforts are still needed to encourage compliance with speed limits.

A critical component of effective traffic law enforcement is the integrity of the penalty system (Watson, 1998; WHO, 2008). Effective deterrence of illegal behaviour depends upon motorists believing that they will indeed receive an infringement notice and penalty when detected doing the wrong thing. As noted earlier, this relates to the extended deterrence concept of avoiding punishment which may actually reinforce illegal behaviour (Stafford & Warr, 1993). In the current sample, approximately one third of participants reported that they had avoided paying a traffic infringement penalty in the previous year and a variety of strategies were described for achieving this end. The majority of the sample reported never having engaged in the avoidance strategies of: having others say that they were driving at the time of the violation (52.3%), using social relationships to avoid penalty (66.5%), and covering or removing a vehicle licence plate to evade detection (80%).

While this is encouraging, it does, nonetheless, highlight that penalty avoidance has occurred within this group of suspended licence holders. However, from other research conducted in the Chinese city of Beijing with car drivers who did not have their licence suspended, similar results were also found (Fleiter, Watson, Lennon, King & Shi, 2009; Fleiter, Watson, Lennon, King & Shi, 2012). For instance, 72.6% of a sample of 299 drivers reported never having used their social contacts to avoid penalties (compared with 66.5% of the current suspended sample). This means that approximately one quarter of that general driver sample and one third of the current suspended licence group reported engaging in the use of their social relationships to avoid paying the penalties associated with traffic law violations. This issue is likely to be linked to the concept of *Guanxi* (see Fleiter et al., 2011 for more information about this topic) and is an area of the current enforcement system in China that will need attention and strengthening if traffic laws are to act as effective deterrent measures. Similarly, using the name of another driver to illegally represent who was driving at the time the violation was committed, as reported by 47.6% of the current sample, is an area that warrants attention. This issue of fraudulent demerit point sharing is not unique to China (see OECD, 2006; van Schagen & Machata, 2012) although it has previously been reported there (Fleiter et al., 2009).

Overall, the results of the current research indicate that more work is needed to improve compliance with traffic laws in China. Some limitations of the current research should be considered. Firstly, the data were self-reported and no link was established with official violation databases to validate the self-reported information. Future research would benefit from such linking to provide a clearer picture of overall offending. Secondly, we can draw no conclusions about the effectiveness of the demerit point scheme or the retraining course because no data are available to use for comparison with our findings. Future research could use this information as baseline data for a larger comparative study. The use of driver retraining courses in China is encouraging because it demonstrates a willingness by authorities to promote safer road use. However, it is also important in the long term to determine the effectiveness of any such program so that scarce resources can be used in the most efficient manner. It is acknowledged that the effectiveness of demerit point schemes is difficult to assess in isolation (OECD, 2006). Importantly however, any impact of such a scheme is likely to be substantially reduced if the integrity of the punishment process is not maintained. Reducing opportunities for drivers to evade detection and avoid punishment are paramount to an effective penalty system (WHO, 2008). Therefore, as China hastens down the path of increasing motorization, these issues require closer attention to promote safe road use for all.

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